1. (Currently Amended) An integrated sensor device for use in identifying biological and chemical agents, the sensor device comprising:

(a) an array of piezoelectic resonators having electrodes, each of the resonators operating in a mode selected from the group consisting of a single mode and a dual mode ;

(b) two or more different sensor coatings, each one disposed on one of the resonators, the sensor coatings collectively designed to differentially absorb to one or more of the biological and chemical agents for measuring orthogonal physical properties;

(c) one or more heater elements, each one integrated to one of the piezoelectric resonators;

(d) a control circuit for exciting the piezoelectric resonators and for measuring frequency and impedance;

(e) a control circuit for varying the temperature of the heater elements and for measuring the temperature of the resonators in order to generate data for use in thermal-gravimetric analysis; and

(f) means for analyzing data collected from the control circuits.

2. (Currently amended) The sensor device of claim 1 wherein the piezoelectric resonators are made from a piezoelectic crystal selected from the group consisting of quartz, ~~lithium, niobate,~~ lithium niobate, lithium ~~tantilite~~ tantalite, langasite and ~~Gallium Orthophosphate~~ gallium orthophosphate.

3. (Currently Amended) The sensor device of claim 1 wherein the array of piezoelectric resonators can operate as a device selected from the group consisting of a bulk ~~accoustic~~ acoustic wave (BAW) device, a surface ~~accoustic~~ acoustic wave (SAW) device, and a Love mode device.

4. (Original) The sensor device of claim 1 wherein each of the sensor coatings is made from a material selected from the group consisting of metal, metallic alloy, polymer, ceramic, carbon, nano-structure, or gold nano-particles.

5. (Original) The sensor device of claim 1 which further includes an external electrode arranged to set up an electrical field between one of the resonators and the external electrode.

6. (Original) The sensor device of claim 1 wherein at least one of the sensor coatings disposed on a resonator is capable of fluorescing and which further includes an optical source and an optical detector arranged to probe the fluorescing sensor coating.

7. (Original) The sensor device of claim 6 wherein the resonator further includes gold nano particles.

8. (Original) The sensor device of claim 1 which further includes at least one of measurement means selected from the group consisting of a clock, a GPS receiver, a thermometer, a barometer, and an anemometer.

9. (Original) The sensor device of claim 1 which further includes an alarm means.

10. (Original) A method for identifying biological and chemical agents comprising the steps of:

(a) selecting an array of piezoelectric resonators operating in a mode selected from the group consisting of a single mode and a dual mode, at least one of the resonators having a heater element integrated thereto;

(b) applying a sensor coating to two or more of the resonators, the sensor coatings collectively designed to differentially absorb to one or more of the biological and chemical agents;

(c) exposing the piezoelectric resonators to a substance containing one or more suspected chemical and biological agents;

(d) electrically exciting the piezoelectric resonators;

(e) activating the heater element;

(f) measuring the frequency and impedance of the piezoelectric resonators;

(g) measuring the temperature from the heater element;

(h) analyzing the data collected from steps (f) and (g);

(i) using the results of step (h) to identify a specific biological or chemical agent.

11. (Currently Amended) The method of claim 10 wherein the piezoelectric reaonators are made from a piezoelectic crystal selected from the group consisting of quartz, ~~lithium, niobate~~ lithium niobate, lithium ~~tantilite~~ tantalite, langasite and ~~Gallium Orthophosphate~~ gallium orthosphosphate.

12. (Currently Amended) The method of claim 10 wherein the array of piezoelectric resonators can operate as a device selected from the group consisting of a bulk ~~accoustic~~ acoustic wave (BAW) device, a surface ~~accoustic~~ acoustic wave (SAW) device, and a Love

mode device.

13. (Original) The method of claim 10 wherein each of the sensor coatings is made from a material selected from the group consisting of metal, metallic alloy, polymer, ceramic, carbon, nano-structure, or gold nano-particles.

14. (Original) The method of claim 10 wherein step (h) includes analyzing orthogonal physical properties.

15. (Original) The method of claim 10 which further includes:

(j) arranging an external electrode between one of the resonators and the external electrode in order to set up an electrical field;

(k) measuring the mass loss;

(l) integrating the results of the measurements into steps (h) and (i).

16. (Currently Amended) The method of claim 10 which further includes:

(j) applying a sensor coating capable of fluorescing ~~to~~ on one of the resonators;

(k) arranging an optical source and an optical detector to probe the fluorescing sensor coating;

(l) measuring the fluorescence;

(m) integrating the results of the measurements into steps (h) and (i).

17. (Original) The method of claim 10 which further includes one or more of the following steps:

(j) measuring time;

(k) using a GPS receiver to ascertain location, including latitude, longitude, and altitude;

(l) measuring temperature;

(m) measuring humidity;

(n) measuring air speed and direction.

18. (Original) The method of claim 10 which further includes:

(j) means for activating an alarm when a hazardous biological and chemical agent is identified.

19. (New) The sensor device of claim 1 wherein some of the electrodes of the resonators are coated with nano particles.